

REMARKS

Applicant acknowledges with appreciation the Examiner's indication of allowability for claims 11, 13, 14, and 48-50. Claims 1, 6, 7, 9, 12, 14, 17, 18, 30, 47, 49, and 235 are amended. Claims 4, 5, 13, 15, 16, 19, 21, 26-29, 38, 39, 41, 42, 48, 51-234 and 236-240 are cancelled without prejudice to their underlying subject matter. Claims 1-3, 6-12, 14, 17, 18, 20, 22-25, 30-37, 40, 43-47, 49, 50, and 235 are pending.

Claim 5 stands objected to for informalities. The objection is respectfully traversed and requested to be withdrawn in view of the cancellation of claim 5.

Claims 1-6, 12, 20, 30-33, 35, and 235 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Published U.S. Patent Application Number 2002/0185700 ("Coffa et al."). Applicant respectfully traverses this rejection.

Claim 1 is amended to incorporate the subject matter from claim 13, which was indicated to be allowable by the Examiner. As such, independent claim 1 and depending claims 2-6, 12, and 20 are patentable over Coffa et al. The rejection of these claims is respectfully requested to be withdrawn.

Claim 30 is amended to incorporate the subject matter from claim 48, which was indicated as allowable by the Examiner. As such, independent claim 30 and depending claims 31-33 and 35 are patentable over Coffa et al. The rejection of these claims is respectfully requested to be withdrawn.

Claim 235, as amended, defines a photoconversion device and recites "a substrate having a surface and a substrate dopant concentration" and "a first region of said substrate doped to a first conductivity type and located at and below the surface of the substrate, said region having a dopant gradient profile wherein said dopant is in

higher concentrations nearer said surface of said substrate relative to portions of said first region deeper within said substrate.” Claim 235 also recites “a second region of said substrate doped to a second conductivity type, located substantially beneath said first doped region relative to said surface and extending to said surface below a transistor gate, said second region being configured with said first region for generating charge from light exposure and collecting photogenerated charges” Claim 235 further recites “a third region of said substrate, said third region having a dopant concentration substantially the same as said substrate dopant concentration and separating said first and second regions from each other and separating said first region from said transistor gate.” This device is not anticipated by Coffa et al.

As indicated by the Examiner in relation to the designation of allowability of claim 48, Coffa et al. fails to disclose “a second region of said substrate doped to a second conductivity type, located substantially beneath said first doped region relative to said surface and extending to said surface below a transistor gate, said second region being configured with said first region for generating charge from light exposure and collecting photogenerated charges” and “a third region of said substrate, said third region having a dopant concentration substantially the same as said substrate dopant concentration and separating said first and second regions from each other and separating said first region from said transistor gate.” For this reason, independent claim 235 is patentable over Coffa et al. and the rejection of this claim is respectfully requested to be withdrawn.

Claims 1-4, 12, 20, and 24 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent 5,962,882 (“Sin”). Applicant respectfully traverses this rejection.

Claim 1 incorporates the subject matter of claim 13 and is patentable over Sin for at least this reason. Applicant respectfully requests that the 35 U.S.C. § 102(b) rejection of claims 1-4, 12, 20, and 24 be withdrawn.

Claims 1-6, 12, 20, 30-33, 35, and 235 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent 6,521,925 ("Mori et al."). Applicant respectfully traverses this rejection.

Claim 1 incorporates the subject matter of claim 13 and is patentable over Sin for at least this reason. Applicant respectfully requests that the 35 U.S.C. § 102(b) rejection of claims 1-4, 12, 20, and 24 be withdrawn.

Claim 30 incorporates the subject matter of claim 48 and is patentable over Sin for at least this reason. Applicant respectfully requests that the 35 U.S.C. § 102(b) rejection of claims 30-33 and 35 be withdrawn.

Claim 235, as amended, is set forth above in relation to its rejection over Coffa et al. Like Coffa et al., Sin fails to disclose "a second region of said substrate doped to a second conductivity type, located substantially beneath said first doped region relative to said surface and extending to said surface below a transistor gate, said second region being configured with said first region for generating charge from light exposure and collecting photogenerated charges" and "a third region of said substrate, said third region having a dopant concentration substantially the same as said substrate dopant concentration and separating said first and second regions from each other and separating said first region from said transistor gate." For this reason, independent claim 235 is patentable over Sin, as it is over Coffa et al., and the rejection of this claim is respectfully requested to be withdrawn.

Claims 7-10, 17, 18, 36, 37, and 40 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Coffa et al. Applicant respectfully traverses this rejection.

Claims 7-10, 17, and 18 each depend from independent claim 1, which was demonstrated above to be patentable over Coffa et al. as not anticipated. The same arguments presented above for the patentability of claim 1 over Coffa et al. apply here to rebut the allegation that the subject matter of the claims depending from claim 1 would have been obvious over Coffa et al. Claims 7-10, 17, and 18 are patentable over Coffa et al. for at least the same reasons as independent claim 1. The rejection of these claims under 35 U.S.C. § 103(a) is respectfully requested to be withdrawn.

Claims 36, 37, and 40 each depend from independent claim 30, which was demonstrated above to be patentable over Coffa et al. as not anticipated. The same arguments presented above for the patentability of claim 30 over Coffa et al. apply here to rebut the allegation that the subject matter of claims depending from claim 30 would have been obvious over Coffa et al. Claims 36, 37, and 40 are patentable over Coffa et al. for at least the same reasons as independent claim 30. The rejection of these claims under 35 U.S.C. § 103(a) is respectfully requested to be withdrawn.

Claim 25 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Sin. Applicant respectfully traverses this rejection.

Claim 25 depends from independent claim 1, which was demonstrated above to be patentable over Sin as not anticipated. The same arguments presented above for the patentability of claim 1 over Sin apply here to rebut the allegation that the subject matter of claim 25 would have been obvious over Sin. The rejection of this claim under 35 U.S.C. § 103(a) is respectfully requested to be withdrawn.

Claims 22 and 23 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Sin in view of U.S. Patent 6,407,417 ("Nagata et al."). Applicant respectfully traverses this rejection.

Claims 22 and 23 each depend from independent claim 1, which was demonstrated above to be patentable over Sin, individually, as not anticipated. The same arguments presented above for the patentability of claim 1 over Sin apply here to rebut the allegation that the subject matter of dependent claims 22 and 23 would have been obvious over Sin in view of Nagata et al. The subject matter added to claim 1 by amendment was indicated as allowable by the Examiner and each claim depending from claim 1, including 22 and 23, is patentable for at least this reason. The rejection of claims 22 and 23 under 35 U.S.C. § 103(a) is respectfully requested to be withdrawn.

Claim 45 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Mori. Applicant respectfully traverses this rejection.

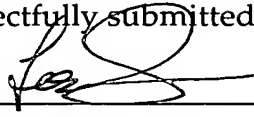
Claim 45 depends from independent claim 30, which was demonstrated above to be patentable over Mori as not anticipated. The same arguments presented above for the patentability of claim 30 over Mori apply here to rebut the allegation that the subject matter of dependent claim 45 would have been obvious over Mori. The subject matter added to claim 30 by amendment was indicated as allowable by the Examiner and claim 45 is patentable for at least this reason. The rejection of claim 45 under 35 U.S.C. § 103(a) is respectfully requested to be withdrawn.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

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Respectfully submitted,

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